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ABSTRACT

A study was conducted to observe differences in the teaching perfcrmance of students who had three different types of pre-student teaching laboratory experiences, some including simulation. Subjects were 75 student teachers who had been randomly assigned to three groups, each having different laboratory experiences, during the pre-student teaching seminar: (1) 2 weeks of observation and participation in an elementary classroom and 1 of simulated classroom experiences; and (3) 1 week of simulated classroom experiences. Simulation groups used Program II of "Mr. Land's Sixth Grade" in which students respond to 20 simulated classroom situations (on 16mm film) as if they were the teacher in the actual classroom. Data consisted of four measures of student teaching perfcrmance, pre-post seminar scores on the Minnesota Teacher Attitude Inventory (MTAI), and pre-post seminar data on response to simulated classroom situations. Analyses of variance and Pearson product moment correlation were used in analyzing data. Findings: There were no significant differences between the three groups in post-seminar response to simulated classroom situations, in performance in student teaching, or in post-seminar attitude toward teaching. There were no significant relationships between post-seminar attitude toward teaching and student teaching performance and none between pre-seminar response to simulated classroom situations and student teaching performance. (JS)

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# CLASSROOM SIMULATION AS A SUBSTITUTE FOR LIVE PRE-STUDENT-TEACHING LABORATORY EXPERIENCES

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## Background of the Problem

The importance of laboratory experiences in teacher education programs, both classroom observation and informal participation, as well as student teaching, can hardly be over-emphasized since these experiences provide for the prospective teacher what clinical work and the internship do for the physician. The steadily increasing enrollment in teacher education programs in the last two decades has increased the problem of providing suitable laboratory experiences, especially those prior to student teaching. Hence, there is need to find other ways of providing these experiences. Recently interest has been shown in the use of simulation techniques as a means of providing students with pre-student-teaching laboratory experiences. Although the research in this area has been limited, initial efforts indicate that this technique may be useful in providing students with meaningful laboratory experiences. Many questions remain unanswered about the use of simulation in the area of teacher education. One of these deals with the possibility of using the technique to provide meaningful pre-student-teaching laboratory experiences for large numbers of students.

## Purpose of the Study

The primary purpose of this study was to determine whether there were differences in the student teaching performance of three groups of students who had three different types of laboratory experiences in their junior year, two of which included simulated classroom situations.

Secondary purposes were to secure data on the following questions:

1. Were there differences among the three groups of students at the end of the junior laboratory experience in:
    a. response to simulated classroom situations and
    b. attitude toward teaching?
2. Is there a relationship between the attitude of students toward teaching expressed at the end of Junior Seminar and performance in student teaching?
3. Is there a relationship between response to simulated classroom situations at the beginning of Junior Seminar and performance in student teaching?

## Review of Related Literature

There is an abundance of literature which either describes existing programs of pre-student-teaching laboratory experiences, or outlines what these programs should be. However, relatively few studies have been reported of the relationship of such experiences to performance in student teaching. Studies by Jones (1955), Edualino (1958), and Best (1965) indicate that pre-student-teaching laboratory experiences may have a positive influence on student teachers' overall effectiveness in student teaching. On the other hand, Nash (1955) found that such experiences had no significant influence on the performance of first year teachers.

Past studies by Oelke (1953), Brim (1964), and Aurand (1964)

indicate that pre-student-teaching laboratory experiences positively influence the attitudes of students toward teaching, while studies by Darrow (1959) and Cox (1960) indicate that such experiences do not result in significant changes in the attitude toward teaching or prospective teachers.

Sandgren and Schmidt (1956) found no relationship between the attitude of students toward teaching and performance in student teaching.

Recent interest in the use of simulation techniques as a means of providing students with laboratory experiences has led to some limited research. Initial efforts indicate that this technique may be useful in providing students with meaningful laboratory experiences.

Several recent investigations used the simulation package "Mr. Land's Sixth Grade." Some studies have been concerned with how efficient use could be made of this material. Kersh (1965) found that students respond to filmed simulated situations better when the projections are less realistic (small) than when the projections are life size (realistic), but that there is no significant difference in post-test performance of students who enact responses to problems on film and those who simply describe how they would respond. Twelker (1966) found that giving prompts that guided students' subsequent responses to simulated classroom situations made learning more efficient in terms of the number of sessions required for learning, the number of trials required to meet a criterion, and the adequacy of the student's initial response in training on each problem.

Other studies have been concerned with the transfer effects of simulation training. Kersh (1965) found that simulation training had no measurable effect on actual student teaching one year after students underwent a series of simulation experiences, nor on the types of problems that student teachers found most difficult to overcome during their student teaching experience. His findings did indicate that some students who underwent simulation training were judged to be ready to assume full responsibility for a new class up to three weeks earlier than students who had no simulation training. The findings of Vlcek (1965) are somewhat different; they indicate that effective responses to classroom problems can be developed through classroom simulator experiences prior to student teaching and that principles developed for application in solving simulated classroom problems do transfer to the student teaching experience. He also found that confidence in ability to teach is increased through classroom simulator experience. Bond (1965) found a trend toward positive change in attitude toward professional course content when simulated classroom experiences are included as a part of instruction in educational psychology.

Another set of simulation materials, known as the "Critical Teaching Problems Laboratory," has been used in at least two studies. Cruickshank and Broadbent (1968) found simulation experiences to be at least as effective as an equal period of student teaching in the areas of attitude change, confidence in ability to meet certain classroom problems, teaching behavior and the amount of time needed to

assume full teaching responsibility as a student teacher. Gaffga (1967) found that student teachers' behavior can be observed effectively in a simulated classroom setting and that simulated classroom experiences do produce changes in the critical behavior of student teachers.

Many questions remain unanswered about the use of simulation techniques in teacher education programs. One of these is the possibility of using the technique to replace observation and participation in actual classrooms in providing laboratory experiences for large numbers of students. The present study is concerned with this question.

## Plan of the Study

Subjects for this study were 74 student teachers at Shippensburg State College who had their Junior Seminar in Term I of the 1967-68 school year. The Junior Seminar at this college consists of five methods courses and two weeks of participation in an elementary classroom. When these students registered for the Junior Seminar they were randomly assigned to one of three groups. Members of the three groups had the usual Junior Seminar methods courses, but had different types of laboratory experiences.

Members of Group A were assigned to an elementary classroom for the usual two weeks of observation and participation. Group B had one week of observation and participation in an elementary classroom followed by one week of simulated classroom situations, using Program II of the simulation package "Mr. Land's Sixth Grade." In these experiences students were presented with a series of 20 simulated

classroom situations on 16mm. film. After each situation the students were expected to react as if they were the teacher in an actual classroom. Role playing and discussion were used as feedback to further understanding of principles involved. Group C had the same one-week period of simulated classroom experiences, but no participation in an actual classroom.

Data were collected on two aspects of the students' performance in student teaching: their general performance and their use of certain principles in meeting specific classroom situations. Student teaching grades were used as one criteria of general performance. Student Teacher Evaluation Form I, developed by the investigator, was used as the second criteria of general performance. Student Teacher Evaluation Form II, also developed by the investigator, was used to measure students' use of certain principles in meeting specific classroom situations. A form was prepared to measure response to simulated classroom situations and the Minnesota Teacher Attitude Inventory was used to measure attitude of students toward teaching.

Data on performance in student teaching were collected at the end of the subjects' student teaching experience. Data on response to simulated classroom situations and on attitude toward teaching were collected at the beginning and again at the end of the term in which the subjects had their Junior Seminar program.

Data on student teaching performance, response to simulated classroom situations at the end of Junior Seminar, and attitude of students toward teaching expressed at the end of Junior Seminar were

analyzed by means of the analysis of variance program BMD01V. Pearson Product-Moment coefficients between scores on response to simulated classroom situations at the beginning of Junior Seminar and performance in student teaching, and between the attitude of students toward teaching expressed at the end of Junior Seminar and performance in student teaching were obtained through use of correlation program BMD02D.

## Analysis of Data

Analysis of the data showed the following:

1. There were no significant differences in the performance in student teaching of the three groups of students ($P > .20$).

2. There were no significant differences in the three groups of students in response to simulated classroom situations at the end of Junior Seminar ($.10 > P > .05$).

3. There were no significant differences in the three groups of students in attitude toward teaching as measured by the Minnesota Teacher Attitude Inventory at the end of Junior Seminar ($.10 > P > .05$).

4. There were no significant relationships between attitude of students toward teaching as measured by the Minnesota Teacher Attitude Inventory at the end of Junior Seminar and four measures of performance in student teaching.

5. There were no significant relationships between response to simulated classroom situations at the beginning of Junior Seminar and four measures of performance in student teaching.

## Conclusions

Based on the results of this study, the following conslusions seem warranted:

1. Laboratory experiences which employ simulation techniques of the type used in this study appear to be as effective in preparing students for student teaching as are laboratory experiences which provide for participation in an actual classroom.

2. It appears that students can learn to use certain principles of classroom management and communication in meeting specific classroom situations either through laboratory experiences which provide for participation in an actual classroom or through laboratory experiences which provide for simulated classroom experiences only.

3. Different types of pre-student-teaching laboratory experiences such as those used in this study do not appear to affect the attitude of students toward teaching.

4. Attitude of students toward teaching expressed at the end of Junior Seminar does not appear to be related to performance in student teaching.

5. Ability to respond to simulated classroom situations at the beginning of Junior Seminar does not appear to be related to performance in student teaching.

## Implications for Teacher Education Programs

It would seem from the findings of this study that laboratory experiences which employ simulation techniques of the type used in this study are as effective in preparing students for student teaching

as are laboratory experiences which provide for participation in an actual classroom. Therefore, it would appear that simulation techniques could be used to provide meaningful pre-student-teaching laboratory experiences in teacher preparation insititutions whose increasing enrollments make it difficult to provide such experiences in an actual classroom.

For many institutions to provide large numbers of students with the usual pre-student-teaching laboratory experiences, i.e., participation in an actual classroom, it is necessary to be quite rigid in the scheduling of such experiences. This may result in something less than optimum placement of the experiences in the student's program. The use of simulation techniques could make it possible to place the laboratory experience in the student's program at the point at which it is most needed.

Efforts might be made to use simulation techniques to provide for the individual needs of students. This might be done by using the technique to identify those students who can effectively use certain principles of classroom management and communication im meeting classroom problems early in their programs. Efforts then could be made to provide these students with other meaningful experiences.

Increasing enrollments in teacher preparation institutions have made it necessary to prepare larger numbers of cooperating teachers and college supervisors. Since it appears that simulation techniques as employed in this study are useful in providing meaningful pre-student-teaching laboratory experiences, these techniques may

also be useful in programs designed to prepare cooperating teachers and college supervisors for their work with student teachers.

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